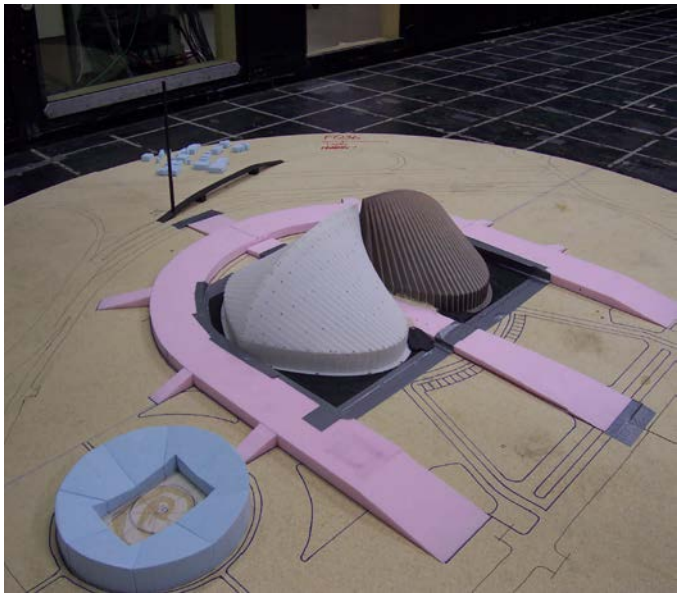
Sport Infrastructure, Rome, Italy

Wind Engineering Study

Image Credit: Santiago Calatrava LLC



Pressure Model

Client	*Structural Engineer*	*Architect*
University of Rome Rome, Italy	Santiago Calatrava LLC Zurich, Switzerland	Santiago Calatrava LLC Zurich, Switzerland
Height	*Year Tested*	*Model Scale*
75 m	2007	1:400

The Project

The Sport Infrastructure Rome project consists of a new sport complex with a parabolic-hyperbolic shaped roof. The total height of the stadium is about 75 meters. The roof is separated in the middle creating two geometrically identical halves, specified as the West and East Stadiums.

The structure is situated at the Tor Vergata campus at the University of Rome in Rome, Italy.

The Wind Tunnel Studies

The wind engineering studies for the Sport Infrastructure project included a study of the wind-induced structural loads and responses, and local cladding pressure loads as well as key structural actions using the pressure model study. The study was carried out for 323 measurement locations distributed over one of the stadiums.

The investigation included two tests with the instrumented and dummy models reversed in position with respect to their surroundings, taking advantage of the symmetry of the project layout. Information on the overall structural loads and responses as well as key structural actions was determined from detailed simultaneous pressure measurements using influence functions.

The Boundary Layer Wind Tunnel Laboratory

Western

The Boundary Layer Wind Tunnel Laboratory
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